THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte THOMAS WETTLING

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Appeal No. 95-2074
Application 08/170,985[1]

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ON BRIEF

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Before JOHN D. SMITH, PAK and ELLIS, **Administrative Patent Judges**.

ELLIS, **Administrative Patent Judge**.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 3 and 4, the only claims pending in the application.

As a preliminary matter we note the statement on p. 3 of the appellant's Brief that the claims stand or fall together. 37 CFR

[1] Application for patent filed December 21, 1993. According to the appellant, this application is a division of Application 07/996,311, filed December 23, 1992, now abandoned.

§ 1.192(c)(5)(1994); now 37 CFR § 1.192(c)(7). Accordingly, for purposes of this appeal, we will consider the issues as they apply to representative claim 3, which reads as follows:

> 3. A process for preparing a tertiary phosphine which comprises: heating a phosphine dihalide in the presence of silicon powder at a temperature of from 100 to 300EC to reduce the phosphine dihalide to the tertiary phosphine.

The references relied on by the examiner are:

Silicon Monoxide, ***Merck Index*** (Merck and Co., Rahway, NJ), 9th ed., p. 1099 (1976).

Natoli 1,259,883 Feb. 01, 1968
(German Patent)

Claims 3 and 4 are rejected under 35 U.S.C. § 103 as being unpatentable over Natoli[2] in view of Merck.

We reverse.

The examiner predicates his conclusion of obviousness on Natoli, a German patent application which discloses a method of reducing a phosphine dihalide to a tertiary phosphine in the presence of a metal such as aluminum, and Merck which states that silicons may be used "[a]s a reducing agent like aluminum in high temp[erature] reactions." Merck, p. 1099, col. 1. The examiner concludes on p. 4 of the Answer that

[2] Our decision is based on a certified copy of the German patent application, which is of record in the file.

> one of ordinary skill in the art would have been motivated to utilize the "high temperature" reducing agent of Merck, namely silicon, in the high temperature reduction reaction of Natoli in place of the aluminum disclosed therein to obtain the instant results of appellants. This motivation is derived from the reasonable expectation that the desired reduction of the phosphine dihalide to tertiary phosphine would result in the process of Natoli when using the silicon reducing agent of Merck and especially because Merck specifically suggests the equivalence of aluminum, used by Natoli, and silicon as "reducing agent(s)."

We find the examiner's position untenable.

In order to establish a ***prima facie*** case of obviousness, the examiner has the initial burden of demonstrating that it would have been obvious to one of ordinary skill in the art to substitute a metal, such as aluminum, for the nonmetal, silicon, in the method of reducing a phosphine dihalide to a tertiary phosphine described by Natoli. Here, the examiner has not met that burden.

In the case before us, the examiner has not established, through the use of factual evidence, or sound scientific reasoning, that it would have been obvious to those of ordinary skill in the art to employ silicon in the reaction disclosed by Natoli. For example, the examiner has not provided any reasons as to why it would have been obvious to use the non-metal silicon, when Natoli requires the use of (i) metals such as zinc, manganese, aluminum and magnesium, preferably aluminum, and (ii)

a metal which has a redox potential of -0.75 to -2.5V. Natoli, p. 5, the penultimate sentence. Rather, we find unsupported allegations, throughout the Answer, that a single phrase in Merck,[3] would have motivated one of ordinary skill in the art to employ silicon in the type of reaction taught by Natoli, and that such persons would have had a reasonable expectation of success in obtaining the claimed results.

The appellant, on the other hand, has at least provided some evidence that the phrase in Merck upon which the examiner relies so heavily, refers to use of silicon as a reducing agent in the metallurgical industry and at temperatures which greatly exceed the claimed 300EC limitation. The examiner has misunderstood the appellant's argument and, consequently, incorrectly dismissed this evidence as being irrelevant. However, we find from a fair reading of the appellant's evidence that it indicates that referenced phrase in Merck would not necessarily have suggested to one of ordinary skill in the art, the interchangeability of aluminum and silicon in the claimed method. Moreover, the only suggestion on this record for the use of silicon in the reduction

[3] Merck states that silicon may be used "[a]s a reducing agent like aluminum in high temp reactions." Merck, p. 1099.

of a phosphine dihalide to a tertiary phosphine that we find is in the appellant's specification. Accordingly, in our opinion, the examiner has relied on impermissible "hindsight" to arrive at the conclusion that the claimed invention is obvious over the applied prior art. ***In re Fritch***, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992); ***Interconnect Planning Corp. v. Feil***, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985) ("It is impermissible to engage in hindsight reconstruction of the claimed invention, using the applicant's structure as the template and selecting elements from the references to fill the gaps"). Accordingly, the rejection is reversed.

The decision of the examiner is reversed.

REVERSED

JOHN D. SMITH Administrative Patent Judge	)
CHUNG K. PAK Administrative Patent Judge	) BOARD OF PATENT)) APPEALS AND)) INTERFERENCES
JOAN ELLIS Administrative Patent Judge	)

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